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10/786,202	02/25/2004	Pierre C. Delago	14622.01	3040
7590 12/21/2006 Stuart R. Hemphill, Esq. DORSEY & WHITNEY LLP Intellectual Property Department 50 South Sixth Street, Suite 1500 Minneapolis, MN 55402-1498			EXAMINER BRAHAN, THOMAS J	
			ART UNIT 3654	PAPER NUMBER
SHORTENED STATUTORY PERIOD OF RESPONSE		MAIL DATE	DELIVERY MODE	
3 MONTHS		12/21/2006	PAPER	

Please find below and/or attached an Office communication concerning this application or proceeding.

If NO period for reply is specified above, the maximum statutory period will apply and will expire 6 MONTHS from the mailing date of this communication.

Office Action Summary	Application No. 10/786,202	Applicant(s) DELAGO, PIERRE C.	
	Examiner Thomas J. Brahan	Art Unit 3654	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on 25 October 2006.
- 2a) ☐ This action is FINAL. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 1-18, 42-51 and 54-69 is/are pending in the application.
- 4a) Of the above claim(s) _____ is/are withdrawn from consideration.
- 5) ☐ Claim(s) _____ is/are allowed.
- 6) ☒ Claim(s) 1-18, 42-51 and 54-69 is/are rejected.
- 7) ☐ Claim(s) _____ is/are objected to.
- 8) ☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on _____ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All b) ☐ Some * c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
2. ☐ Certified copies of the priority documents have been received in Application No. _____.
3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

- | | |
|--|---|
| 1) <input checked="" type="checkbox"/> Notice of References Cited (PTO-892) | 4) <input type="checkbox"/> Interview Summary (PTO-413)
Paper No(s)/Mail Date. _____ |
| 2) <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948) | 5) <input type="checkbox"/> Notice of Informal Patent Application |
| 3) <input checked="" type="checkbox"/> Information Disclosure Statement(s) (PTO/SB/08)
Paper No(s)/Mail Date <u>8/28/06</u> | 6) <input type="checkbox"/> Other: _____ |

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1. The following is a quotation of the all of the paragraphs of 35 U.S.C. § 112:
 - 1) The specification shall contain a written description of the invention, and of the manner and process of making and using it, in such full, clear, concise, and exact terms as to enable any person skilled in the art to which it pertains, or with which it is most nearly connected, to make and use the same and shall set forth the best mode contemplated by the inventor of carrying out his invention.
 - 2) The specification shall conclude with one or more claims particularly pointing out and distinctly claiming the subject matter which applicant regards as his invention.
 - 3) A claim may be written in independent or if the nature of the case admits, in dependent or multiple dependent form.
 - 4) Subject to the following paragraph, a claim in dependent form shall contain a reference to a claim previously set forth and then specify a further limitation of the subject matter claimed. A claim in dependent form shall be construed to incorporate by reference all the limitations of the claim to which it refers.
 - 5) A claim in multiple dependent form shall contain a reference, in the alternative only, to more than one claim previously set forth and then specify a further limitation of the subject matter claimed. A multiple dependent claim shall not serve as a basis for any other multiple dependent claim. A multiple dependent claim shall be construed to incorporate by reference all the limitations of the particular claim in relation to which is being considered.
 - 6) An element in a claim for a combination may be expressed as a means or step for performing a specified function without the recital of structure, material, or acts in support thereof, and such claim shall be construed to cover the corresponding structure, material, or acts described in the specification and equivalents thereof.
2. Claims 1-11 are rejected under 35 U.S.C. § 112, second paragraph, as being indefinite for failing to particularly point out and distinctly claim the subject matter which applicant regards as the invention. In claim 1, line 3, applicant's use of the limitation "the center post has a generally cylindrical outer bearing surface" is not understood as it is not accurate. How can a surface be both generally cylindrical as recited in independent claim 1, and have a double incline face, as recited in claim 10, or an arcuate profile, as recited in claim 11? What types of surfaces are being considered by applicant as generally cylindrical?
3. Claims 45-47 are rejected under 35 U.S.C. § 112, second and fourth paragraphs, as being indefinite for failing to particularly point out and distinctly claim the subject matter which applicant regards as the invention and for failing to specify a further limitation of the subject matter claimed. It is unclear as to how claims 45 and 47 further limit the claimed invention, a method of delivering radial loads between structures, as these claims are devoid of any method type limitations.
4. The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

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A person shall be entitled to a patent unless –

(b) the invention was patented or described in a printed publication in this or a foreign country or in public use or on sale in this country, more than one year prior to the date of application for patent in the United States.

5. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

6. Claims 1, 2, 6-8, 12-14, 16-18 and 42-48, as understood, are rejected under 35 U.S.C. § 102(b) as being anticipated by Kaltenbach. Kaltenbach shows a system for receiving and delivering into a base (base or portal 14) the radial loads imposed on a crane, wherein the crane has a center post operably (tapering tower 13) connected to the base (14), the center post has a generally cylindrical outer bearing surface (girder 13^b and rails 25), and the crane rotates in at least a partial circle around a rotational axis of the center post (13), the system comprising:

a plurality of rollers (rollers 26) arranged in a linked sequence along the outer bearing surface (13^b/25) of the center post (13), each roller (26) having an axis of rotation that is generally parallel to the rotational axis of the center post;

an anchor (at one threaded bolt 31) for anchoring a first roller at one end of the linked sequence and an anchor (at the other threaded bolt 31) anchoring a second roller at the other end of the linked sequence; and

a link (formed by vertical pins 27 and links 28) connecting each roller between the first and the second rollers to its adjacent rollers to form a flexible chain of said rollers, wherein the linked rollers are in rolling contact with the outer bearing surface (13^b/25).

The link includes fixed links (27) between some adjacent rollers (26) and pivoting links (28) between other adjacent rollers (26), as recited in claims 2 and 13. When considering claims 3 and 14, the upper rollers (26) shown in figure 5 are the back rollers at a second location from the roller chain formed by the lower rollers. Alternatively, see the additional rejection of claims 3 and 14 below. The flexible chain of rollers extends completely about the center post (13) as to have arcs of least 120 degrees, of at least 180 degrees, and at least 270 degrees, as recited in claims 6-8, 16-18 and 45-47. The link is tensioned by threaded bolts (31), as recited in method claim 12.

7. Claims 1-7, as understood, are rejected under 35 U.S.C. § 102(b) as being anticipated by SU 1,337,338. SU '338 shows a system for receiving and delivering into a base (the central structure of post

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1 or its lower mounting element) the radial loads imposed on a crane, wherein the crane has a center post (post 1) operably connected to the base, the center post has a generally cylindrical outer bearing surface (its outer surface), and the crane rotates in at least a partial circle around a rotational axis of the center post (1), the system comprising:

a plurality of rollers (rollers 11) arranged in a linked sequence along the outer bearing surface of the center post (1), each roller (11) having an axis of rotation that is generally parallel to the rotational axis of the center post (1);

an anchor (the axle that attaches one of the end rollers and end links to the crane superstructure 8) for anchoring a first roller at one end of the linked sequence and an anchor (the axle that attaches the other end roller and its link to the crane superstructure 8) anchoring a second roller at the other end of the linked sequence; and

a link (links 10) connecting each roller between the first and the second rollers to its adjacent rollers to form a flexible chain of said rollers, wherein the linked rollers are in rolling contact with the outer bearing surface.

The links (10) are formed with alternating inner and outer chain links as to have each roller fixedly mounted to one adjacent roller and pivotally linked to its other adjacent roller, as recited in claims 2 and 3. A back roller (9) is secured to the superstructure (8) at a location not encompassed by the roller chain, as recited in claim 3. A containing pad or flange (7) prevents displacement of the roller chains in at least one direction, as recited in claims 4 and 5. The flexible chain of rollers encompasses at least approximately 120 degrees and at least 180 degrees of the cylindrical outer bearing surface of the crane center post, as recited in claims 6 and 7.

8. Claims 3 and 14, as understood, are rejected under 35 U.S.C. § 103(a) as being unpatentable over Kaltenbach in view of Goss et al, US Patent No 4,061,230. Kaltenbach shows the basic claimed bearing arrangement, but varies from the claims by not having an additional "back roller" which bears against the post at a location distinct from the roller chain. Goss et al '230 shows a similar crane bearing with rollers (114, 115, 122a and 122b) mounted on pivoted linkages on the front or boom side of the superstructure and idler rollers (130 and 132) fixedly mounted on the back side of the superstructure. It would have been obvious to one of ordinary skill in the art at the time the invention was made by applicant to modify the roller arrangement of Kaltenbach by using a pair of fixed "back rollers", as to have some fixedly mounted rollers for taking high stresses, as taught by Goss et al '230.

9. Claims 1, 3, 6-8, 12, 14, 16-18 and 42-48, as understood, are rejected under 35 U.S.C. § 103(a) as being unpatentable over Goss et al '230 in view of Kaltenbach. Goss et al '230 shows a system for receiving and delivering into a base the radial loads imposed on a crane, wherein the crane has a center post (pedestal 10) operably connected to the base, the center post has a generally cylindrical outer

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bearing surface (at roller path 110), and the crane rotates in at least a partial circle around a rotational axis of the center post, the system comprising:

a plurality of rollers (114, 115, 122a, 122b) arranged in a linked sequence along the outer bearing surface (110) of the center post, each roller having an axis of rotation that is generally parallel to the rotational axis of the center post;

an anchor (plate 116) for anchoring a first roller at one end of the linked sequence and an anchor (plate 124) anchoring a second roller at the other end of the linked sequence;

Goss et al '230 varies from the claims by not having the rollers (114, 115, 122a, 122b) linked together to form a flexible chain. Kaltenbach shows a similar crane with rollers (26) connected together by links (28) and anchored at the ends with adjusting levers (29) and threaded bolts (31). This adjustment allows the slack to be taken up in the chains due to wear on the roller pins or in the links, and also controls the relative rocking motion between the skirt and tower due to the unbalanced load, see page 2, lines 104-109. It would have been obvious to one of ordinary skill in the art at the time the invention was made by applicant to modify the rollers (114, 115, 122a, 122b) of Goss et al '230 by having them linked together and adjustably anchored, as to form an adjustable flexible chain, as taught by Kaltenbach. Goss et al '230 has back rollers (130 and 132) as recited in claims 3 and 14. When considering claims 6-8, 16-18 and 45-47, it would have been obvious to one of ordinary skill in the art at the time the invention was made by applicant to modify all the rollers (114, 115, 122a, 122b 130 and 132) of Goss et al '230 by having them linked together and adjustably anchored, as to form an adjustable flexible chain, as taught by Kaltenbach.

10. Claims 4, 5 and 15, as understood, are rejected under 35 U.S.C. § 103(a) as being unpatentable over Kaltenbach in view of Burnett. Kaltenbach shows the basic claimed bearing arrangement, but varies from the claims by not having a containment pad/flange for the rollers. Burnett shows a similar crane having a roller chain (E) with rollers (v) riding on a containment pad/ flange (circular way r). It would have been obvious to one of ordinary skill in the art at the time the invention was made by applicant to modify the bearing arrangement of Kaltenbach by providing the rollers with a containment pad, to prevent displacement of the rollers in a vertical direction, as taught by Burnett.

11. Claims 9 and 15, as understood, are rejected under 35 U.S.C. § 103(a) as being unpatentable over Kaltenbach in view of Murakami. Kaltenbach shows the basic claimed bearing arrangement as detailed above, but varies from the claims by not having a flange on the rollers. Murakami shows a similar crane having flanged rollers (13) riding on a rail (10). It would have been obvious to one of ordinary skill in the art at the time the invention was made by applicant to provide the rollers of Kaltenbach with flanges, for keeping the rollers aligned on their rails, as taught by Murakami.

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12. Claims 10 and 15, as understood, are rejected under 35 U.S.C. § 103(a) as being unpatentable over Kaltenbach in view of Ehret. Kaltenbach shows the basic claimed bearing arrangement as detailed above, but varies from claim 10 by having flat bearing surfaces on the rollers and on the track instead of having arcuate bearing surfaces. Ehret shows a similar crane roller in figure 2 with flat bearing surfaces and another roller bearing chain in figure 4 which has V-shaped bearing surfaces. It would have been obvious to one of ordinary skill in the art at the time the invention was made by applicant to modify the roller arrangement of Kaltenbach by having V-shaped bearing surfaces on the rollers and the tracks, as to distribute the loading on the bearings, as taught by Ehret.

13. Claims 11 and 15, as understood, are rejected under 35 U.S.C. § 103(a) as being unpatentable over Kaltenbach in view of Zaugg or Baker. Kaltenbach shows the basic claimed bearing arrangement, but varies from claim 11 by having flat bearing surfaces on the rollers and on the track instead of having arcuate bearing surfaces. Zaugg shows a similar roller bearing chain in figure 3 with flat bearing surfaces and another roller bearing chain in figure 1 which has arcuate bearing surfaces. Baker shows a similar roller bearing chain in figure 6 with flat bearing surfaces and another roller bearing chain in figure 4 which has arcuate bearing surfaces. It would have been obvious to one of ordinary skill in the art at the time the invention was made by applicant to modify the roller arrangement of Kaltenbach by having arcuate bearing surfaces on the rollers and the tracks, as these are art recognized equivalent structures, as taught by Zaugg or by Baker.

14. Claims 12-17, 42-46 and 47, as understood, are rejected under 35 U.S.C. § 103(a) as being unpatentable over SU '338 in view of Kaltenbach. SU '338 shows the basic claimed crane bearing system as detailed above, but varies from claim 12 by not specifying tensioning the linked sequence of rollers. Kaltenbach shows a similar crane bearing arrangement with tensioning means (levers 29 and threaded bolts 31). It would have been obvious to one of ordinary skill in the art at the time the invention was made by applicant to provide the chain rollers of SU '338 with means for tensioning the chain, for allowing the slack to be taken up due to wear on the rollers and pins and to control the amount of rocking motion due to unbalanced loads, as taught by Kaltenbach. The links (10) of SU '338 are formed with alternating inner and outer chain links as to have each roller fixedly mounted to one adjacent roller and pivotally linked to its other adjacent roller, as recited in claims 13. A back roller (9) is secured to the superstructure (8) at a location not encompassed by the roller chain, as recited in claim 14. A containing pad or flange (7) prevents displacement of the roller chains in at least one direction, as recited in claim 15. The flexible chain of rollers encompasses at least approximately 120 degrees and at least 180 degrees of the cylindrical outer bearing surface of the crane center post, as recited in claims 16, 17, 45 and 46.

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15. Claims 49-54 are rejected under 35 U.S.C. § 103(a) as being unpatentable over Wampach in view of Kaltenbach. Wampach shows a crane supported off of a base (truck frame 31), the crane comprising:

- a center post (swing support frame 27) including a top end, a bottom end for coupling to the base (31), a first bearing surface (at hub 33), and a second bearing surface (plate 28), wherein the first bearing surface extends in a generally arcuate manner about a vertical axis of the center post (27) and generally faces away from the vertical axis in a direction generally normal to the vertical axis, and wherein the second bearing surface (28) extends in a generally arcuate manner about the vertical axis and generally faces upward;

- a superstructure (5) including a roller chain and a third bearing surface (plate 36), wherein the third bearing surface extends in a generally arcuate manner about the vertical axis and generally faces downward to oppose the second bearing surface (28), and wherein the roller chain is located above the second and third bearing surfaces (28 and 36) and encompasses at least a segment of the first bearing surface and includes:

- a first roller (one of the rollers 34), a second roller (another roller 34), and a third roller (another roller 34), each roller including a rotational axis generally parallel to the vertical axis and a roller surface in rolling contact with the first bearing surface, wherein the rollers are radially offset from each other along the first bearing surface;

- a fourth roller (41) received between, and in rollable contact with, the second and third bearing surfaces (28 and 36).

Wampach varies from claim 49 as the first, second and third rollers (34) are not linked together as a roller chain. Figure 13 of Kaltenbach shows a crane roller chain encompassing a crane post bearing surface comprising first, second and third rollers (26), each roller including a rotational axis generally parallel to the vertical axis and a roller surface in rolling contact with the first bearing surface, wherein the rollers are radially offset from each other along the first bearing surface with a first member (a link 28) interlinking the first and second rollers and maintaining an offset distance between the first and second rollers, and a second member (another link 28) pivotal relative to the first member, interlinking the second and third rollers and maintaining an offset distance between the second and third rollers. Kaltenbach teaches that the roller chain arrangement allows slack to be taken up due to wear on the roller pins and controls the relative rocking motion between the superstructure and the tower, see page 2, lines 104-109. It would have been obvious to one of ordinary skill in the art at the time the invention was made by applicant to modify the rollers (34) of Wampach by forming them as roller chain, as to have their mounting adjustable, as taught by Kaltenbach. Wampach has a boom (8) pivotally coupled to the superstructure (5), as recited in claim 50. It is coupled with a bearing system at pivot pin (9) adjacent the top of the center post (27), as recited in claim 51. The mounting bracket at pivot pin (9) is considered as the foot of the boom, i.e., the mounting for the boom, which is above the roller chain, as recited in claim 54.

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16. Claim 55 is rejected under 35 U.S.C. § 103(a) as being unpatentable over Wampach in view of Kaltenbach, as applied above to claim 49, and further in view of Wagner et al. Wampach, as modified, shows the basic claimed bearing arrangement, but varies from claim 55 by not having a swivel post near the top of the center post. Wagner et al shows a similar crane and has its center post (15) having a swivel post (21) and for upper thrust bearings (28). It would have been obvious to one of ordinary skill in the art at the time the invention was made by applicant to provide the center post (33) of Wampach with a swivel post and thrust bearings, for additional counter-effecting of turning moments in the vertical plane resulting from boom loading, as taught by Wagner et al.

17. Claims 56-61, 64 and 67-69 are rejected under 35 U.S.C. § 103(a) as being unpatentable over Wampach in view of Kaltenbach. Using the language of new claim 56, Wampach shows a crane comprising:

- a vertical post (cylindrical hub 33) including a post bearing surface forming at least a partial arc about a vertical axis of the vertical post;

- a superstructure (swing bed 5) pivotal about the vertical post (33) and including a boom foot (at 9) having a pivot point (9);

- a boom (boom 8) extending from the boom foot and pivotable in a vertical plane about the pivot point (9) in response to one or more lines (cable 10) extending between the boom (8) and a swivel-post head (at 97) near a top of the vertical post (as near is a relative term); and

- a series of rollers (34) encompassing at least a segment of the post bearing surface, each roller (34) including a rotational axis generally parallel to the vertical axis of the vertical post (33) and a roller surface in rolling contact with the post bearing surface;

Wampach varies from the claims as rollers (34) are not arranged as a roller chain. Figure 13 of Kaltenbach shows a crane roller chain encompassing a crane post bearing surface comprising a plurality of rollers (26) arranged in a pivotally linked sequence, each roller (26) including a rotational axis generally parallel to the vertical axis of the vertical post and a roller surface in rolling contact with the post bearing surface, wherein the rollers are distributed with equal spacing on an arc along the post bearing surface with at least 180 degrees between a first roller and a last roller and first and second anchors (29) coupled to the superstructure and pivot linked to the first and the second rollers. Kaltenbach teaches that the roller chain arrangement allows slack to be taken up due to wear on the roller pins and controls the relative rocking motion between the superstructure and the tower, see page 2, lines 104-109. It would have been obvious to one of ordinary skill in the art at the time the invention was made by applicant to modify the rollers (34) of Wampach by forming them as roller chain, as to have their mounting adjustable, as taught by Kaltenbach. Wampach has its boom pivot pin (9) above these rollers, as recited in claim 57. Wampach has a support collar (28) radially extending from the vertical post (33), an annular ring (36) extending from the superstructure, and a container ring including a plurality rollers (41) having rotational

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axes generally perpendicular to the vertical axis and wherein the rollers rollingly displace between the support collar (28) and the annular ring (36), as recited in claim 58. The container ring is below the roller chain, as recited in claim 59. When making the modification, the post bearing surface could be maintained as the outer surface of the vertical post as is shown in Wampach, as recited in claim 60. Alternatively, the modification could be made incorporating a rail, as Kaltenbach shows rails (25), see figure 5, as recited in claim 61. Kaltenbach has two rows of rollers, see figure 5, as to have one roll considered as having "back rollers" as recited in claim 64. Alternatively, see the rejection of claim 64 below. The rollers of the roller chain would encompass an arc of at least 270 degrees, as recited in claim 67, and would have a spacing between 2 and 20 between each roller, as recited in claim 68, and which would be approximately 15 degrees, as recited in claim 69.

18. Claim 62 is rejected under 35 U.S.C. § 103(a) as being unpatentable over Wampach in view of Kaltenbach, as applied above to claim 56, and further in view of deJong. Wampach, as modified, shows the basic claimed bearing arrangement, but varies from claim 62 by not having V-shaped rollers. DeJong teaches that conical and V-shaped rollers are art recognized equivalents, see the end of column 11. It would have been obvious to one of ordinary skill in the art at the time the invention was made by applicant to modify the bearing arrangement of Kaltenbach by using V-shaped rollers and a V-shaped rails instead of flat rollers and flat rails, to hold the rollers vertically, as taught by deJong.

19. Claim 62 is rejected under 35 U.S.C. § 103(a) as being unpatentable over Wampach in view of Kaltenbach, as applied above to claim 56, and further in view of Ehret. Wampach, as modified, shows the basic claimed bearing arrangement, but varies from claim 62 by having flat bearing surfaces on the rollers and on the track instead of having arcuate bearing surfaces. Ehret shows a similar crane roller in figure 2 with flat bearing surfaces and another roller bearing chain in figure 4 which has V-shaped bearing surfaces. It would have been obvious to one of ordinary skill in the art at the time the invention was made by applicant to modify the roller arrangement of Wampach by having V-shaped bearing surfaces on the rollers and the tracks, as to distribute the loading on the bearings, as taught by Ehret.

20. Claim 63 is rejected under 35 U.S.C. § 103(a) as being unpatentable over Wampach in view of Kaltenbach, as applied above to claim 56, and further in view of Zaugg or Baker. Wampach, as modified, shows the basic claimed bearing arrangement, but varies from claim 11 by having flat bearing surfaces on the rollers and on the track instead of having arcuate bearing surfaces. Zaugg shows a similar roller bearing chain in figure 3 with flat bearing surfaces and another roller bearing chain in figure 1 which has arcuate bearing surfaces. Baker shows a similar roller bearing chain in figure 6 with flat bearing surfaces and another roller bearing chain in figure 4 which has arcuate bearing surfaces. It would have been obvious to one of ordinary skill in the art at the time the invention was made by applicant to modify the

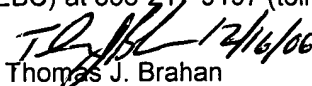
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roller arrangement of Wampach by having arcuate bearing surfaces on the rollers and the tracks, as these are art recognized equivalent structures, as taught by Zaugg or by Baker.

21. Claim 64 is rejected under 35 U.S.C. § 103(a) as being unpatentable over Wampach in view of Kaltenbach, as applied above to claim 56, and further in view of Goss et al '230. Wampach, as modified, shows the basic claimed bearing arrangement, but varies from claim 64 by not having an additional "back roller" which bears against the post at a location distinct from the roller chain. Goss et al '230 shows a similar crane bearing with rollers (114, 115, 122a and 122b) mounted on pivoted linkages on the front or boom side of the superstructure and idler rollers (130 and 132) fixedly mounted on the back side of the superstructure. It would have been obvious to one of ordinary skill in the art at the time the invention was made by applicant to modify the roller arrangement of Wampach by using a pair of fixed "back rollers", as to have some fixedly mounted rollers for taking high stresses, as taught by Goss et al '230.

22. Claims 65 and 66 are rejected under 35 U.S.C. § 103(a) as being unpatentable over Wampach in view of Kaltenbach, as applied above to claim 56, and further in view of Burnett. Wampach, as modified, shows the basic claimed bearing arrangement, but varies from claims 65 and 66 by not having a containment pad/flange for the rollers. Burnett shows a similar crane having a roller chain (E) with rollers (v) riding on a containment pad/ flange (circular way x). It would have been obvious to one of ordinary skill in the art at the time the invention was made by applicant to modify the bearing arrangement of Wampach by providing the rollers with a containment pad, to prevent displacement of the rollers in a vertical direction, as taught by Burnett.

23. Applicant's remarks in the amendment filed October 25, 2006, have been considered but are deemed moot in view of the above new rejections. An inquiry concerning this communication or earlier communications from the examiner should be directed to Thomas J. Braham whose telephone number is (571) 272-6921. The examiner's supervisor, Ms. Katherine Matecki, can be reached at (571) 272-6951. The fax number for all patent applications is (571) 273-8300. Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Questions regarding access to the Private PAIR system, should be directed to the Electronic Business Center (EBC) at 866-217-9197 (toll-free).


Thomas J. Braham
Primary Examiner
Art Unit 3654